c.) Amendments to the Claims

1. (currently amended) A safety mechanism for an actuator, said actuator including ~~operated by~~ at least one active shape memory alloy component selectively heated to deliver an actuating stroke, ~~including:~~

a passive shape memory alloy component exposed to ambient temperature conditions and activated by exceeding the phase transition temperature of said passive shape memory alloy component due to an ambient overtemperature condition;

means operated by said passive shape memory alloy component for preventing said delivery of said actuating stroke.

2. (original) The safety mechanism of claim 1, wherein said means for preventing delivery of said actuating stroke include means for decoupling the output of said actuator from a load.

3. (original) The safety mechanism of claim 1, wherein said means for preventing delivery of said actuating stroke include means for releasing said actuator from mechanical ground whereby said actuator cannot apply force to a load.

4. (original) The safety mechanism of claim 1, wherein said means for preventing delivery of said actuating stroke include means for connecting said

passive shape memory alloy component in countervailing effect to said actuator to neutralize displacement caused by said overtemperature condition.

5. (original) In a displacement multiplied actuator driven by selectively activated shape memory alloy components to deliver an output stroke, a safety mechanism for preventing spontaneous activation in an overtemperature condition, including:

at least one passive shape memory alloy component exposed to ambient temperature conditions and activated by being passively heated to exceed the phase transition temperature of said at least one passive shape memory alloy component due to an ambient overtemperature condition;

means operated by contraction of said passive shape memory alloy component for preventing said delivery of said output stroke.

6. (original) The safety mechanism of claim 5, wherein said actuator comprises a first DM-SMA actuator having a first output in a first direction; and said at least one passive shape memory alloy component comprises a second DM-SMA actuator having a second output in a second direction.

7. (original) The safety mechanism of claim 6, further including means for joining said first and second actuators so that said first and second output

directions are parallel and opposite and said first and second outputs are additive and countervailing.

8. (original) The safety mechanism of claim 6, further including means for selectively powering said second actuator.

9. (original) The safety mechanism of claim 5, wherein said means for preventing said delivery of said output stroke includes a latch assembly for selectively immobilizing or freeing said actuator for translation in a direction opposite and parallel to said output stroke.

10. (original) The safety mechanism of claim 9, wherein said latch assembly includes a lever arm supported at a fulcrum.

11. (original) The safety mechanism of claim 10, wherein said passive shape memory alloy component includes a SMA wire having one end connected to one end of said lever arm.

12. (original) The safety mechanism of claim 11, wherein the other end of said SMA wire is connected to a mechanical ground.

13. (original) The safety mechanism of claim 12, wherein the other end of said lever arm includes a latch for releasably engaging said actuator.

14. (original) The safety mechanism of claim 13, wherein the distance from said latch to said fulcrum is greater than the distance from said fulcrum to said one end of said lever arm, whereby the contraction of said SMA wire is amplified by said lever arm to move said latch a distance greater than said contraction of said SMA wire.

15. (original) The safety mechanism of claim 9, further including a housing having a horseshoe configuration and an interior space between opposing arms, said actuator being received in said interior space.

16. (original) The safety mechanism of claim 15, wherein said latch assembly is disposed at an end of one of said opposing arms.

17. (original) The safety mechanism of claim 16, wherein said means for preventing delivery of said stroke includes a lever arm extending between said opposing arms of said housing and pivotally secured to an end of one of said arms.

18. (original) The safety mechanism of claim 17, wherein said passive shape memory alloy component includes a SMA wire connected to one end of said lever arm.

19. (original) The safety mechanism of claim 18, wherein said SMA wire extends from said one end of said lever arm to circumscribe the outer surface of said horseshoe configuration.

20. (original) The safety mechanism of claim 19, wherein the other end of said SMA wire is anchored to an end of said other arm of said housing.

21. (original) The safety mechanism of claim 19, wherein the other end of said lever arm is disposed proximate to said latch, and further including a pin extending from said other end of said lever, said pin extending to engage a camming slot in said latch end.

22. (original) The safety mechanism of claim 21, wherein said camming slot is configured to drive said opposing arms to diverge and said latch to disengage said actuator as said SMA wire contracts and rotates said lever about said fulcrum.

23. (original) The safety mechanism of claim 22, wherein said housing is generally resilient and exerts an intrinsic restoring force to converge said opposing arms.

24. (original) The safety mechanism of claim 5, wherein said means for preventing said delivery of said output stroke includes load connector means extending between said actuator and a load for selectively releasing said load when said at least one passive shape memory alloy component is activated.

25. (original) The safety mechanism of claim 24, wherein said load connector means includes a bracket assembly having an interior space in which said actuator is disposed.

26. (original) The safety mechanism of claim 25, wherein said actuator is secured to a mechanical ground, and said interior space is dimensioned to provide limited translation of said bracket assembly in a direction parallel to said output stroke.

27. (original) The safety mechanism of claim 26, wherein said load connector means includes a link extending from said bracket assembly to a load connector.

28. (original) The safety mechanism of claim 27, further including a latch supported on said link for releasably engaging said load connector.

29. (original) The safety mechanism of claim 28, wherein said at least one passive shape memory alloy component includes an SMA wire connected to said latch, said SMA wire extending along said link.

30. (original) The safety mechanism of claim 29, wherein contraction of said SMA wire operates said latch to free said load connector from said link, whereby said actuator cannot affect said load